CLAIMS

What is Claimed is:

1. An audiometric apparatus for testing hearing, comprising:

stimulus generating means for transmitting at least one true random stimulus sequence to a subject's inner ear; and

detection means for detecting the response signal returned from the subject's inner ear in response to said stimulus sequence.

2. The audiometric device of Claim 1, wherein said apparatus includes analyzer means for controlling the stimulus generating means and analyzing said response signal.

3. An audiometric apparatus for testing hearing, comprising:

stimulus generating means for transmitting at least one stimulus sequence to a subject's inner ear; and

sampling means for detecting the response signal returned from the subject's inner ear in response to said stimulus sequence, said response signal having at least a first waveform, said sampling means including waveform reconstruction means for reconstructing said first waveform, said reconstruction means including means for applying a plurality of true random frequencies to said response signal.

4. The audiometric device of Claim 3, wherein said apparatus includes analyzer means for controlling said sampling means.

5. The audiometric device of Claim 4, wherein said analyzer means includes means for analyzing said first waveform.

6. An audiometric apparatus for testing hearing, comprising;

stimulus generating means for transmitting at least one stimulus sequence to a subject's inner ear; and

sampling means for detecting the response signal returned from the subject's inner ear in response to said stimulus sequence, said response signal having at least first and second waveforms, said first waveform comprising a true response signal, said second waveform comprising a noise signal, said sampling means including waveform reconstruction means for reconstructing said first waveform, said reconstruction means including means for applying a plurality of true random frequencies to said first and second waveforms whereby data substantially reflective of said first waveform is acquired.

7. An audiometric apparatus for testing hearing, comprising;

stimulus generating means for transmitting at least one true random stimulus sequence to a subject's inner ear; and

sampling means for detecting the response signal returned from the subject's inner ear in response to said stimulus sequence, said response signal having at least a first waveform, said sampling means including means for applying a plurality of true random frequencies to said response signal to reconstruct said first waveform.

8. The apparatus of Claim 7, wherein said apparatus includes analyzer means for controlling the stimulus generating means.

9. The apparatus of Claim 8, wherein said analyzer means includes means for controlling said sampling means.

10. A method of testing the hearing of a subject, comprising the steps of:

presenting at least one true random stimulus sequence to said subject's inner ear; and

detecting the response signal returned from the subject's inner ear in response to said stimulus sequence.

11. The method of Claim 10, wherein a plurality of said true random stimulus sequence is presented to said subject's ear.

12. A method of testing the hearing of a subject, comprising the steps of:

presenting at least one stimulus sequence to said subject's inner ear;

detecting the response signal returned from the subject's inner ear in response to said stimulus sequence, said response signal having at least one waveform;

sampling said response signal waveform by applying a plurality of true random frequencies to said response signal, said sampling providing at least a first set of response signal data;

recording said first set of response signal data; and

reconstructing said response signal waveform from said first set of response signal data.

13. A method of testing the hearing of a subject, comprising the steps of:

presenting at least one true random stimulus sequence to said subject's inner ear;

detecting the response signal returned from the subject's inner ear in response to said stimulus sequence, said response signal having at least one waveform;

sampling said response signal waveform by applying a plurality of true random frequencies to said response signal, said sampling providing at least a first set of response signal data;

recording said first set of response signal data; and

reconstructing said response signal waveform from said first set of response signal data.

14. A method of testing the hearing of a subject, comprising the steps of:

presenting at least one true random stimulus sequence to said subject's inner ear; and

detecting the response signal returned from the subject's inner ear in response to said stimulus sequence.